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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/820,074	03/28/2001	Huig Klinkenberg	ACO2774US	4035

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EXAMINER	
BERMAN, SUSAN W	

ART UNIT	PAPER NUMBER
1711	

DATE MAILED: 02/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/820,074	KLINKENBERG ET AL.	
	Examiner	Art Unit	
	Susan W Berman	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 January 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-15* is/are pending in the application.

4a) Of the above claim(s) *2* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Arguments

The responses mailed 03-04-2003 and 09-05-2003 with respect to arguments incorporated by reference to remarks filed 12-23-22002 and 7-07-2003 are incorporated herein.

Applicant argues that photolatent bases are not mentioned nor suggested as component E in CA '504. This argument is not persuasive because the rejections of record are based upon the function of photolatent bases to provide a base catalyst analogous to component "D" taught by CA '504. It is the examiner's position that one of ordinary skill in the art would have been motivated to employ the photoactivable bases taught by WO '964 or WO '524 in addition to the conventional Lewis base catalysts taught by CA '504. The reason is that the same resulting base that catalyzes the reaction between components A and B is provided by the photolatent base, thus one skilled in the art would have been motivated by a reasonable expectation of success. Each of WO '964 and WO '524 teaches reasons, such as a higher level of storage stability and higher sensitivity, that would have motivated one skilled in the art at the time of the instantly claimed invention to employ the disclosed photoactivatable bases in the photopolymerizable compositions comprising a basic catalyst taught by CA '504. The comprising language of the instant claims encompasses the free radical or cationic photoinitiator also present in the compositions disclosed by CA '504 as component "E". Furthermore, CA '504 teaches thioxanthone or benzophenone sensitizers useful as component "E" and corresponding to sensitizers taught by Applicant as useful in the instantly claimed compositions.

Applicant points out that CA '504 teaches 2-component systems wherein the base catalyst "D" is stored separately from the base-catalyzed components A and B. Applicant further points out that each of WO '964 and WO '524 teaches that the disclosed photolatent bases enable one-pot systems having a high level of storage stability. Thus, applicant argues that one skilled in the art would have been motivated to substitute the photolatent bases taught by WO '964 or WO '524 for the non-latent base catalyst taught by CA '504 and would realize that the storage stability advantage could only be reached in the absence of a

non-latent base. This allegation is not persuasive because it is not substantiated by any statements in the references or other prior art. Indeed, it is the examiner's position that one skilled in the art would have been motivated to employ a combination of photolatent base and non-photolatent base as base catalyst in base-catalyzed compositions comprising components A and B by a reasonable expectation of successfully catalyzing the reaction and of taking advantage of the storage stability taught by WO '964 and by WO '524. Applicant appears to have found that the improvement in storage stability afforded by the use of photolatent base is present when non-photolatent base is present in amounts of 2.5 wt/% or less but not when the non-photolatent base is present in amounts of 5 wt.% or more. See Table I. This appears to be only the expected result taught by the prior art, in the absence of evidence to the contrary. In any case, there are no claims commensurate in scope with the wt % limitation shown in the table. Claims 5 and 13 have been considered.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1 and 3-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over CA 2 101 504 A in view of WO 00/10964, published March 02, 2000. The translation provided by applicant in copending Serial No. 09/865025 is relied upon for the disclosure of WO '964. CA '504 discloses compositions comprising a photoinitiator, such as free radical acylphosphine oxides or arylketones or cationic sulphonium salts, and components corresponding to the instantly claimed composition components (A), (B) and (C). The sensitizers set forth in instant claim 6 are taught. CA '504 teaches that the polymerization of the disclosed compositions is catalyzed by a basic catalyst in the particularly suitable form of Lewis bases, such as amines or amidines. The specific catalysts (D) taught by CA '504 are unblocked Lewis or Bronsted bases corresponding to the catalyst (C) claimed by applicant. CA '504 teaches that the disclosed binders are particularly suitable for automotive repair lacquers. CA '504 does

not disclose ammonium, iminium or amidinium borate salts corresponding to applicant's photolatent base as photoinitiator component (D).

WO '964 discloses alpha-ammonium alkenes, imminium alkenes and amidinium alkenes in the form of tetraryl- or triaryl-alkylborate salts for use in systems that require a photoinitiator which splits off a base, such as amine or amidine, during irradiation. WO '964 teaches that the disclosed compounds have a high level of sensitivity, that their absorption spectrum can be varied within a wide range and that the compounds enable preparation of one-pot systems having an "extraordinarily high level of storage stability" (page 1, last paragraph, to page 2, line 7). Compositions disclosed comprise preferable base catalysable binders "n" corresponding to the instantly claimed compositions (page 15). WO '964 does not teach adding Lewis or Bronsted bases corresponding to applicant's component (C) as catalysts.

It would have been obvious to one skilled in the art to employ the photoactiavable bases taught by WO '964 as the catalyst in the form of Lewis bases or Bronsted bases in the compositions taught by CA '504. CA '504 and each of WO '964 and WO '524 are considered to be analogous art disclosing photocurable compositions comprising base-catalysable binders comprising compounds with activated CH groups and alpha,beta-ethylenically unsaturated compounds, as instantly claimed, and basic catalysts for curing the compositions. CA '504 provides motivation to employ basic catalysts by teaching that the disclosed compositions are curable in the presence of a catalyst in the form of a Lewis or Bronsted base and a photoinitiator that can be stored with the reactive components of the composition. The photoactivable bases taught by WO '964 are said to split off an amine, imine or amidine group during irradiation, thus providing a Lewis base as required in the compositions disclosed by CA '504. WO '964 teaches analogous compositions comprising an ethylenically unsaturated carbonyl compound and a polymer containing activated CH_2 groups are a preferred base-catalysable binder, thus providing a reasonable expectation of success as motivation to employ the disclosed photoactivatable bases in the compositions taught by CA '504. One of ordinary skill in the art at the time of the invention would have

been further motivated by an expectation of taking advantage of the curing effects and high level of storage stability of the alpha-ammonium alkenes, imminium alkenes and amidinium alkenes in the form of tetraryl- or triaryl-alkylborate salts taught by WO '964 and the curing effects of the basic catalyst for curing thicker layers or concealed areas taught by CA '504. Compositions comprising both kinds of catalyst would be curable by irradiation and provide crosslinking in thicker layers or concealed areas not reached by UV light because the catalyst is included with the photoinitiator, as taught by CA '504 (page 1, lines 25-31).

Claims 1 and 3-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over CA 2,101,504 in view of WO 98/41524. The disclosure of CA '504 is discussed above. WO '524 discloses photoactivatable nitrogen-containing bases based on alpha-amino alkenes for initiating polymerization of compositions such as "n" defined on page 14 and corresponding to the instantly claimed composition. WO '524 teaches that the alpha-amino alkenes disclosed release an amidine group on light exposure, that the compounds are of high sensitivity, that the absorption spectrum can be varied within a wide range and that the compounds provide one-pot systems having an "extremely long storage life" (page 1, last paragraph, to page 2, line 11). WO '524 does not teach also adding a Lewis or Bronsted base catalyst corresponding to applicant's component (C) set forth in instant claim 1.

It would have been obvious to one skilled in the art to employ the photoactivatable bases taught by WO '524 as the catalyst in the form of Lewis bases or Bronsted bases in the compositions taught by CA '504. CA '504 provides motivation by teaching that the disclosed compositions are curable by radiation in the presence of a catalyst in the form of Lewis bases or Bronsted bases and a photoinitiator that can be stored with the reactive components of the composition. The photoactivable nitrogen-containing bases taught by WO '524 are said to release an amidine group upon irradiation, thus providing a Lewis base as required in the compositions disclosed by CA '504. WO '524 teaches analogous

compositions comprising an ethylenically unsaturated carbonyl compound and a polymer containing activated CH_2 groups are a preferred base-catalyzable binder, thus providing a reasonable expectation of success as motivation to employ the disclosed photoactivatable bases in the compositions taught by CA '504. One of ordinary skill in the art at the time of the invention would have been motivated by an expectation of taking advantage of both the disclosed properties of high sensitivity, that the absorption spectrum can be varied within a wide range and that the compounds provide one-pot systems having an "extremely long storage life" of the photoactivatable nitrogen-containing bases based on alpha-amino alkenes taught by WO '524 and the curing effects of the basic catalyst for curing thicker layers or concealed areas taught by CA '504. Compositions comprising both kinds of catalyst would be curable by irradiation and provide crosslinking in thicker layers or concealed areas not reached by UV light because the catalyst is included with the photoinitiator, as taught by CA '504 (page 1, lines 25-31).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan W Berman whose telephone number is 571 272 1067. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571 272 1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Susan Berman

Susan W Berman
Primary Examiner
Art Unit 1711

SB
2/19/04